

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (CURRENTLY AMENDED) Mammography imaging apparatus, which contains either an essentially vertically standing body part or a support structure ~~21~~ (21) attachable to a wall or a ceiling, and an arm structure in connection with it, being turnable with respect to a horizontal rotating axis ~~28~~ (28), a radiation source ~~23~~ (23) on one hand and image data receiving means ~~25~~ (25) on the other hand being placed at essentially opposite ends of the arm structure, which arm structure includes at least two arm parts ~~22, 22'~~ (22), (22') orientating essentially parallel and means for changing the mutual orientation of at least a first and a second of the said at least two arm parts, wherein the apparatus includes first means ~~M~~ (M) for turning ~~at least the said first arm part 22~~ the arm structure, including said at least two arm parts, as a whole around a horizontal axis and that to the said second arm part ~~22'~~ (22') is arranged second means ~~M'~~ (M') ~~with help of which, when turning the said first arm part 22, it is possible both to maintain the orientation of the said second arm part 22' with respect to the said first arm part 22 and to turn the said second arm part 22' in a different direction and/or at a different angular velocity with respect to the movement of the said first arm part 22~~ for turning said second arm part with respect to said first arm part.

2. (CANCELLED)

3. (CANCELLED)

4. (CURRENTLY AMENDED) Imaging apparatus according to claim 1, wherein said first arm part 22 (22) contains a said radiation source 23 (23) of the ~~imag-~~ing imaging apparatus and the said second arm part 22' (22') contains said means for receiving image data 25 (25).

5. (CURRENTLY AMENDED) Imaging apparatus according to claim 31, wherein said first means comprises a first actuator coupled to said first arm part and said second means comprises a second actuator M' (M') ~~is arranged coupled to~~ said second arm part 22' (22').

6. (CURRENTLY AMENDED) Imaging apparatus according to claim 4, wherein said second arm part 22' (22') contains a lower shelf structure 24 (24) having at least an essentially planar upper surface, essentially in direction of its pivot axis.

7. (CURRENTLY AMENDED) Imaging apparatus according to claim 6, wherein the pivot axis of the said second arm part 22' (22') is arranged at a ~~small~~ distance, ~~like 1—5 cm, preferably 2—3 cm~~ on the order of centimeters, from the upper surface of the lower shelf ~~structure 24~~ structure (24) belonging to it.

8. (CURRENTLY AMENDED) Imaging apparatus according to claim 1, wherein the radiation source has a focus and the dimensions of the said arm structure are arranged such that when the arm parts 22, 22' (22), (22') are orientated essentially parallel, the distance from the focus of the radiation source 23 (23) to the image data receiving means 25 (25) is in the order of magnitude of ~~60—80 cm~~ between about 60 to 80 cm.

9. (CURRENTLY AMENDED) Imaging apparatus according to claim 1, wherein the pivot axis of the said second arm part 22' (22') is arranged to coincide with the pivot axis of the said first arm part 22 (22).

10. (CURRENTLY AMENDED) Imaging apparatus according to claim 1, wherein said second arm part ~~22'~~ (22') contains a compression structure ~~26, 27~~ 26, 27, which positions the tissue to be imaged into the imaging area.

11. (CURRENTLY AMENDED) Imaging apparatus according to claim 10, wherein said compression structure contains an upper compression plate ~~26~~ (26) and a lower compression plate ~~27~~ (27), which lower compression plate ~~27~~ (27) ~~may also consist of~~ comprises only the lower shelf structure ~~24~~ (24) of the said second arm part ~~22'~~ (22'), which contains the image data receiving means ~~25~~ (25).

12. (CURRENTLY AMENDED) Imaging apparatus according to claim 1, wherein the imaging apparatus includes a control arrangement via which the said actuators ~~M, M'~~ first and second means (M), (M') are arranged to be programmatically drivable.

13. (CURRENTLY AMENDED) Method for turning an arm structure of a mammography imaging ~~appara-tus~~ apparatus, which arm structure contains either a vertical base part or support ~~structure~~ structure attachable to a wall or a ceiling, and a structure in connection with it that is turnable with respect to a horizontal rotating axis, which structure has on one hand a radiation source and on the other hand image data receiving means located essentially at the opposite ends of it, which arm structure ~~includes~~ includes at least two arm parts orientating essentially parallel, and means for changing mutual orientation of at least a first and a second of the said at least two arm parts, wherein while the said first arm part is ~~re-tated~~ rotated around a horizontal axis, the said second arm part is rotated either in the same direction at a different angular velocity as said first arm, or in ~~the opposite~~ a direction opposite to the direction of rotation of the first arm.

14. (CURRENTLY AMENDED) Method according to claim 13, wherein said first arm part is rotated by the same actuator by which the arm structure as a whole ~~may be~~ is capable of being rotated.

15. (PREVIOUSLY PRESENTED) Method according to claim 13, wherein said second arm part is rotated by an actuator integrated to the said arm part.

16. (CURRENTLY AMENDED) Method according to claim 13, wherein one moves from a first position of the arm structure, where the said at least first and second arm parts are orientated essentially parallel with respect to each other, to another corresponding position, such as from a previous imaging position to a subsequent imaging position, according to a motion-sequence which contains such an intermediate phase where the said first and second arm parts are essentially in some other orientation than parallel, ~~whereupon at least one of the movements of the sequence contains a movement realized according to any of the claims 13—16.~~

17. (PREVIOUSLY PRESENTED) Method according to claim 16, wherein said sequence contains at least one phase where the said second arm part is rotated in a different direction but at the same angular velocity as the said first arm part.

18. (CURRENTLY AMENDED) Control arrangement of a mammography imaging apparatus, which contains means and control routines for realizing actions according to the method of ~~any of the claims 13—17~~ claim 13.

19. (CURRENTLY AMENDED) Control arrangement according to claim 18, wherein it contains at least one control routine for driving the arm parts from a first ~~position~~ position to a second one.

20. (CURRENTLY AMENDED) Control arrangement according to claim 19, wherein said control routine contains driving of the arm parts into at least one ~~position~~ position where the mutual orientation of at least two arm parts has been ~~essentially~~ essentially deviated from parallel orientation.

21. (PREVIOUSLY PRESENTED) Control arrangement according to claim 18, wherein said program routines include routines with help of which desired control sequences for the arm parts may be created into the control arrangement.

22. (PREVIOUSLY PRESENTED) Control arrangement according to claim 18, wherein it contains means for following and/or recognizing the mutual orientation of the arm parts, and/or their orientation with respect to support structures of the apparatus.

23. (NEW) Imaging apparatus according to claim 7 wherein the pivot axis of said second arm part (22') is arranged at a distance in the range of between about 2 to 3 cm from the upper surface of the lower shelf structure (24) belonging to it.

24. (NEW) Imaging apparatus according to claim 1, wherein said means (M,M') are arranged to enable turning the arm parts (22, 22') at different angular velocities in the same direction with respect to each other.

25. (NEW) Imaging apparatus according to claim 1, wherein said means (M, NI') are arranged to enable turning the arm parts (22, 22') such that while the first arm part turns in one direction, the second arm turns in the opposite direction.